IN THE SPECIFICATION

On page 2, lines 21-30 of the specification, please replace the original paragraph with the following replacement paragraph:

The present invention is directed to a technique for determining the three-dimensional motion of an organ. In general, the technique utilizes one or more methodologies to determine motion such that motion along the three-dimensional axes of an object [[as]] is measured by one or more methodologies. For example, sensor-based measurement may be used to measure motion, such as along one or two perpendicular axes relative to the organ. Image-based motion measurement techniques, using pre-acquisition or acquisition image data, may also be used to measure motion along one or more perpendicular axes. The measured motion along each perpendicular axis may be used to derive concurrent motion vectors for the organ for all three dimensions over time.

On page 13, lines 13-24 of the specification, please replace the original paragraph with the following replacement paragraph:

It is worth noting that the type of source may vary even within sensor-based and image-data based source categories. For example, sensors 36 may be used as a source of motion data for two different axes, however, one type of sensors may be employed on one axis, such as accelerometers, and a second type of sensor may be employed at the second axis, such as pressure sensors. Similarly, image-data may be used as a source of motion data for more than one axis, however different data-based techniques may be employed in measuring motion data along the different axes. For example, pre-acquisition image data may be the source of motion data along one axis while an acquisition image data, from either the raw or reconstructed image domain, may be the source of motion data along a different axis. Therefore, the respective motion data sources 74, 84, 86 may include the most suitable and/or convenient combination of sources available.

On page 14, line 19 to page 15, line 2 of the specification, please replace the original paragraph with the following replacement paragraph:

A specific example of the technique as described in Fig. 3, utilizing both sensor-based and data-based motion estimation, is provided in Fig. 4. As depicted in Fig. 4, organ motion in the *xy*-plane may be continuously acquired by sensors 36 such that *x*-axis motion data 70 is acquired from the *x*-axis sensor 40 at step 94 and *y*-axis motion data 76 is acquired from the *y*-axis sensor 42 at step 96. Conversely, the *z*-axis motion data 78 may be acquired at step 98 from pre-acquisition image data acquired from the imager 12. For example, an MR scanner utilizing a Navigator echo or other pre-acquisition motion measurement technique may be used to acquire the *z*-axis motion data 78 at step 98. The concurrent motion vectors associated with the *x*-axis, *y*-axis, and *z*-axis motion data 70, 76, and 78 may be combined at step 88 to generate a set of three-dimensional motion data 90 for the organ of interest which is continuous over time. The three-dimensional motion data 90 derived by the technique of Fig. 4 may be obtained in substantially real-time and, in addition, may be used prospectively, such as for gating of the acquisition process and so forth.

On page 15, line 17 to page 16, line 7 of the specification, please replace the original paragraph with the following replacement paragraph:

For example, a metric of reliability of motion correlation between the two ~~source~~ sources of motion data for an axis may be established, such as over numerous studies. A fraction of that metric may then be used as a reliability threshold. The reliability threshold and the acquired motion data from the two sources may be used to validate the acquired motion data, as depicted at acquisition step 102 for the *x*-axis, acquisition step 104 for the *y*-axis, and acquisition step 106 for the *z*-axis. The validation may occur concurrent with or subsequent to acquisition of the motion data, as desired or based upon the availability of the validating motion data. As one of ordinary skill in the art will appreciate, phase variations between the sensor-based and image-

based motion data may be accounted for during the validation process as needed. If the second source of motion data validates the first source, such as based upon the reliability criterion discussed above, the motion data may be derived and used as described above. If the second source of motion data fails to validate the first source, a variety of response may be triggered, such as notification of an operator, termination of the measurement process, or continuation of the motion data acquisition process using either the first or second source of motion data without validation. The motion data 70, 76, 78 may be used to generate concurrent motion vectors for combination at step 88 to generate the three-dimensional motion data 90. While the preceding discussion describes the use of two sources of motion data along an axis for acquisition and validation, one of ordinary skill in the art will readily apprehend that more than two sources may be available and employed for acquisition and validation of motion data along an axis.